What is claimed is:

1. An intelligent data-network telephony (DNT) packet-data network, comprising:

       5   a first IP Router connected to the packet-data network;

              a computer-telephony integration (CTI) server connected to the first IP router by a dedicated data link enabling monitoring of transactions at the IP Router and manipulation of IP Router functions; and

              telephony applications executing on the CTI Server;

     10   wherein the executing applications provide a Service Control Point (SCP) for preprocessing and further routing of incoming DNT calls at the first P Router.

2. The intelligent DNT network of claim 1 further comprising a DNT-

     15   capable Interactive Voice response (IVR) unit connected to the first IP Router, wherein the SCP connects the callers on the incoming DNT calls to the IVR, which elicits information from the callers, and the SCP uses the elicited information to further route the calls.

     20   3. The intelligent DNT network of claim 2 further comprising a protocol-translating bridge connected on the network and to a dedicated-connection telephony network, wherein calls after IVR processing, based on the elicited information, are routed over the bridge and into the dedicated-connection network.

     25

4. The intelligent DNT network of claim 1 wherein the DNT network is the Internet.

5. The intelligent DNT network of claim 3 wherein the dedicated-connection network is a publicly-switched telephony network.

6. The intelligent DNT network of claim 1 comprising multiple instances of IP routers enhanced by CTI servers executing CTI applications, providing thereby intelligent routing of DNT calls at multiple points and levels.

7. The intelligent DNT network of claim 1 wherein at least one call center is implemented at a customer premise, the call center comprising a second IP router enhanced by a CTI processor, the second IP router connected to the DNT network and to plural agent stations each having an IP-capable telephone coupled to the IP router; wherein a call routed by the SCP to the second IP router may be further routed by action of the CTI processor to an agent at a selected one of the agent stations.

8. The intelligent DNT network of claim 7 wherein the IP-capable telephones are implemented on computer stations having video display units (PC/VDUs) at the agent stations, and wherein the PC/VDUs are coupled to the second IP router and to the CTI processor by a local area network (LAN).

9. A method for transforming a packet data network having interconnected IP routers into an intelligent telephone network, comprising steps of:

     (a) enhancing IP routers in the network by connecting a computer-telephony integration (CTI) server to one or more of the IP routers; and

     (b) monitoring activities, including calls received, at the enhanced IP routers; and

(c) executing CTI applications on the CTI servers and commanding functions, including routing of calls received by the enhanced IP routers, based on the activities monitored.

10. The method of claim 9 further comprising a step for assigning IP addresses for one or more enhanced IP routers as no-charge-to-calling-party destinations, and rerouting calls by the CTI processor based upon association of the no-charge-to-calling-party IP addresses with IP addresses of enterprises sponsoring the no-charge-to-calling-party IP addresses.

11. The method of claim 10 wherein one or more enterprises each maintain a call center comprising a CTI-enhanced IP router connected to IP-capable telephones at agent stations, and comprising a step for further routing a call routed to one of the call centers to an IP-capable telephone at the agent station.